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Application No.: 08/974,584
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PATENT

Marked-Up Version of Claim Amendments

119 (Amended) A recombinant or synthetic polynucleotide encoding a protein that comprises each of the following structures:

- a) Trp-R¹-X₇-R¹-R¹-R²-X-Phe-Phe-Tyr-X-Thr-Glu-X₈₋₉-R³-R³-Arg-R⁴-X₂-Trp [Trp-R1-X7-R1-R1-R2-X-Phe-Phe-Tyr-X-Thr-Glu-X8-9-R3-R3-Arg-R4-X2-Trp]
- b) X₃-Arg-X₂-Pro-Lys-X₃ [X3-Arg-X2-Pro-Lys-X3]
- c) X-Arg-X-Ile-X
- d) X₄-Phe-X₃-Asp-X₄-Tyr-Asp-X₂ [X4-Phe-X3-Asp-X4-Tyr-Asp-X2]
- e) Tyr-X₄-Gly-X₂-Gln-Gly-X₃-Ser-X₈ [Tyr-X4-Gly-X2-Gln-Gly-X3-Ser-X8]
- f) X₆-Asp-Asp-X-Leu-X₃ [X6-Asp-Asp-X-Leu-X3]

wherein R¹ [R1] is Leu or Ile; R² [R2] is Gln or Arg; R³ [R3] is Phe or Tyr; R⁴ [R4] is Lys or His, and X_n [X_n] represents the number n of consecutive unspecified amino acids;

and wherein the protein has telomerase catalytic activity when complexed with a telomerase RNA component.

120 (Amended) The polynucleotide of claim 119, encoding a protein that comprises the structure Trp-Leu-X-Tyr-X₂-h-h-X-h-h-X-p-Phe-Phe-Tyr-X-Thr-Glu-X-p-X₃-p-X₃-Tyr-X-Arg-Lys-X₂-Trp [Trp-Leu-X-Tyr-X2-h-h-X-h-h-X-p-Phe-Phe-Tyr-X-Thr-Glu-X-p-X3-p-X3-Tyr-X-Arg-Lys-X2-Trp]; wherein h is a hydrophobic amino acid selected from Ala, Leu, Ile, Val, Pro, Phe, Trp, and Met; and p is a polar amino acid selected from Gly, Ser, Thr, Tyr, Cys, Asn and Gln.

121 (Amended) The polynucleotide of claim 119, where structure a) further comprises Arg-Lys-X₂-Trp-X₂-Leu [Arg-Lys-X2-Trp-X2-Leu].